In re Patent Application of:
COFFA ET AL.
Serial No. **10/014,980**
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In the Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

Claims 1-8 (previously canceled).

9. (previously presented) A process of fabricating a pressure sensor comprising:

forming a buried layer of second conductivity type in a substrate of first conductivity type and forming an upper layer of first conductivity type adjacent the buried layer;

forming at least one opening to a depth sufficient to reach the buried layer;

selectively etching the buried layer through the at least one opening to make the buried layer porous;

forming a sacrificial layer on the upper layer;

forming a backplate over the sacrificial layer; and

removing the sacrificial layer and porous buried layer to thereby define a cavity and adjacent diaphragm for the pressure sensor.

10. (previously presented) A process according to Claim 9 further comprising forming a plurality of holes in the backplate.

11. (previously presented) A process according to Claim 9 wherein the cavity and adjacent diaphragm are shaped as concentric circular sectors.

12. (previously presented) A process according to Claim 9 further comprising forming a sealant layer for the at least one opening prior to forming the sacrificial layer; and etching the sealant layer to reopen the at least one opening before the removing.

13. (previously presented) A process according to Claim 12 wherein the sealant layer and the sacrificial layer both comprise silicon oxide deposited by a PVAPOX technique.

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14. (previously presented) A process according to Claim 9 wherein the removing comprises oxidizing the porous buried layer and etching the oxidized porous buried layer.

15. (previously presented) A process according to Claim 14 wherein the oxidizing is carried out immediately after selectively etching the buried layer.

16. (previously presented) A process according to Claim 14 wherein the etching comprises isotropically etching with an acid solution.

17. (previously presented) A process according to Claim 16 wherein the acid solution comprises a diluted solution of hydrofluoric acid and the etching is carried out at room temperature.

18. (amended) A process according to Claim 9 wherein the substrate comprises monocrystalline silicon; and wherein forming the

backplate comprises forming the backplate ~~comprising~~ of polycrystalline silicon.

19. (previously presented) A process according to Claim 9 wherein selectively etching the buried layer comprises electrochemically etching the buried layer using an electrolytic solution.

20. (previously presented) A process according to Claim 9 wherein forming the at least one opening comprises forming a plurality of openings equally spaced apart.

21. (previously presented) A process according to Claim 9 wherein forming the at least one opening comprises forming the at least one opening by masking and anisotropic plasma etching.

22. (previously presented) A process according to Claim 9 wherein forming the at least one opening comprises forming the at least one opening through a face of the substrate opposite the upper layer.

23. (previously presented) A process according to Claim 9 wherein forming the at least one opening comprises forming the at least one opening through a face of the upper layer opposite the substrate.

24. (previously presented) A process according to Claim 9 wherein the substrate comprises monocrystalline silicon and the upper layer comprises an epitaxial silicon layer.

25. (previously presented) A process of fabricating a pressure sensor comprising:

forming a buried layer of second conductivity type between first and second layers of first conductivity type;

forming at least one opening to a depth sufficient to reach the buried layer;

selectively treating the buried layer through the at least one opening;

forming a sealant layer for the at least one opening;

forming a sacrificial layer adjacent the upper layer and sealant layer;

forming a backplate over the sacrificial layer with a plurality of holes therein;

etching the sealant layer to reopen the at least one opening; and

removing the sacrificial layer and the treated buried layer to thereby define a cavity and adjacent diaphragm for the pressure sensor.

26. (previously presented) A process according to Claim 25 wherein the cavity and adjacent diaphragm are shaped as concentric circular sectors.

27. (previously presented) A process according to Claim 25 wherein removing comprises oxidizing the treated buried layer and etching the oxidized treated buried layer.

28. (previously presented) A process according to Claim 27 wherein the oxidizing is carried out immediately after selectively treating the buried layer.

29. (previously presented) A process according to Claim 27 wherein the etching comprises isotropically etching with an acid solution carried out at room temperature.

30. (previously presented) A process according to Claim 25 wherein the substrate comprises monocrystalline silicon; and wherein forming the backplate comprises forming the backplate comprising polycrystalline silicon.

31. (previously presented) A process according to Claim 25 wherein selectively treating the buried layer comprises electrochemically etching the buried layer using an electrolytic solution.

32. (previously presented) A process according to Claim 25 wherein the first layer comprises a substrate and the second layer comprises an epitaxial layer formed thereon; and wherein forming the at least one opening comprises forming the at least one opening through the epitaxial layer.

Claims 33-47 (canceled).